

An Essay
on
Meningo - Cephalitis

Respectfully Submitted
to the
Faculty
of the
Homeopathic Medical College
of
Pennsylvania
on the
First day of February

One Thousand Eight Hundred Fifty-four
by
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of
Coventry Rhode Island

The disease described by most pathologists as Acute Hydrocephalus, consists essentially in inflammation of the brain and its membranes, and hence may more properly be called Meningo-Cephalitis. The watery effusion usually constitutes but a small part of the morbid condition, and is sometimes almost if not entirely wanting. There may or there may not be cerebral or meningeal Tuberculosis.

Acute Hydrocephalus is a disease of childhood, occurring unusually between the ages of two and eight years; sometimes as early as the fifth or sixth month of infancy, in rarer cases as late as the twelfth or fourteenth year, but very seldom at a more advanced age.

Probably there is no disease to which the human system is subject in its early years, which makes its attacks in so insidious and deceptive a manner. It seems to select its victims from the most promising specimens of youthful beauty, sweetness of disposition, and mental manifestation. Many a fond parent has looked with the greatest pleasure & satisfaction, upon those very characteristics in the child, which has doomed it to the embraces of this fearful disease.

It is because many of its early symptoms are identical with, and others so closely resemble the common & ordinary affections of childhood, that they do not usually attract the attention which their serious import demands.

The peculiar physical organization

which predisposes to attack, of acute hydrocephalus, consists, of a largely developed head, of a globular shape, with the anterior & posterior regions especially prominent, projecting eyebrows, long eyelashes, tardy ossification of the bones of the cranium, the fontanels being larger and remaining open longer than usual, and retarded development of other portions of the body.

According to the usual course of this disease, its symptoms may be arranged into four stages. First the precursory stage. Second the stage of Irritation, Third the stage of Exudation and Fourth the stage of Torpid Fever.

It is of the utmost importance to recognize the symptoms of this disease at their earliest period of manifestation, as all

we can reasonably hope from medical treatment is to arrest its progress before the symptoms of its last stage are fully established. We should therefore in all complaints of children watch most carefully for the distinctive marks of this affection, in order to treat them with the greatest promptness.

The first or precursory stage consists mainly of a disturbed condition of the nutritive functions. At first the appetite is diminished, but afterwards becomes capricious, varying from a total disrelish of food, to great voracity. The tongue is foul & the breath offensive; the bowels are usually constipated, the evacuations from them are pale, containing but little bile, or dark with vitiated bile; fetid sour smelling, slimy or scybalous stools.

The abdomen becomes tumid and tender.
There is slight inflammatory excitement,
the pulse is rather more frequent than us-
ual, the skin somewhat dry and the
urine scanty. The child loses his Cox
former blooming and healthy appearance,
his countenance becomes pale and his body
emaciated. His sleep is disturbed and
unrefreshing. He manifests a languid
and dejected appearance, a disinclination for the
ordinary play and amusements of child-
hood, and in place of the customary lively-
ness, cheerfulness & vivacity of spirit, there
is fretfulness, irritability and much
uneasiness. Any sudden movement
causes headache, and on raising the head
from a recumbent posture there is vertigo,
or a sudden stupifaction seems to be
experienced. Children who were previously

able to run about with ease, gradually become clumsy and have a vacillating gait, they raise their feet higher than natural when walking, and frequently stumble and fall on the floor. This unsteadiness and clumsiness is observable in all the movements of the body.

In infants we may expect this disease is approaching, when there is an unnatural wakefulness, a frequent shrill cry and scream, a clenching of the fists, & a turning of the thumbs toward the palms of the hands.

If in a child with a large head and a stromous diathesis, we find a considerable number of the above symptoms continuing with intensity, we may be quite sure that there is a morbid condition coming on within the cranium.

This stage usually gives place to the second in from two to five days. If there be tuberculous depositions, the precursory stage may continue for a much longer time.

Usually in this case the symptoms occur at irregular intervals, but sometimes, on the contrary, there is a regularity, so nearly resembling the paroxysms of intermittent fever, that this form of attack has occasionally been mistaken for that disease. When however the inflammatory condition is established, the disease progresses rapidly and most always terminates fatally.

Sometimes the head symptoms supervene, upon the subsidence of some other disease, such as suppression of an eruption from the scalp, after scarlet fever, whooping cough, very painful dentition, or any

inflammatory complaint. In such cases the sudden occurrence of convulsions or paralysis, frequently give the first evidence that the brain is affected.

This is the most dangerous form of invasion.

In the second or irritative stage, the symptoms indicate a general disturbance of the nervous system. There is violent headache, with shooting pains, particularly in the frontal and temporal regions, and with pressure in the eyes.

This is indicated in very young children by their putting their hands to their heads and uttering the peculiar shrill cry. Vomiting comes on sometimes during the headache, at other times immediately after it. When delirium comes on the vomiting ceases. The vomiting is increased by

motion and by taking liquid food. Sometimes only food is discharged, but more frequently bile. The vomiting is a suspicious symptom when recurring repeatedly without apparent cause. It subsides as the disease progresses.

The abdomen instead of continuing tumid, becomes retracted without increased evacuations by stool. This is a characteristic symptom. Occasionally there is pain in the abdomen. The bowels continue constipated, and when stools occur they are viscid, tenacious, brown or dark colored. There is great restlessness and agitation.

The face is commonly pale, the countenance becomes changed and ^{the features} somewhat distorted. The nose and ears are dry, the lips are pale or of a faint dark red color and cracked by heat.

The eyes are very sensitive to light, & the pupils are contracted. Noise is also very disturbing. The child often has a characteristic frown upon his brow, and an expression of vacancy in his countenance, as if he were stunned. He however retains his mental faculties, though he is dull and dislikes to talk. The sleep is restless and much disturbed by grinding of the teeth. The child will frequently start with a scream, apparently in terror.

Febrile symptoms are more marked in this stage, plainly indicating that inflammatory action is going on in the head. The pulse is frequent & sharp, occasionally irregular and intermitting. The tongue is slightly furred and moist, there is little or no thirst, the skin is dry and hot, and the urine is scanty and

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somewhat high-colored or turbid. The disease passes rapidly through this stage, the symptoms changing sometimes within twenty four hours, and seldom lasting more than two or three days.

Third stage or that of exudation. The nervous symptoms of the previous stage, are highly intensified in this. In consequence of the pressure of the effused fluid upon the brain, we have a comatose, insensible or delirious condition. The pulse is slower and sometimes extremely slow and very irregular. It is notwithstanding easily accelerated by the slightest motion even by raising the child up in bed. The ear is no longer sensitive to noise, nor the eye to light. The pupils are dilated. The vision is imperfect, & there is almost blindness.

The pupils oscilate and become fixed wide open. There is diplopia or strabismus.

The patient lies on his back with his eyes half closed, his head boring into the pillow, in a state of drowsiness and sopor, often uttering a moaning cry expressive of pain and frequently grasping with his hands at his head & stomach. The urine is passed involuntarily and unconsciously, and also the stools when the bowels are not closed. Convulsions usually come on at this time, or slight spasmodic twitchings, and sometimes paralysis or hemiplegia. The little sufferer with feeble and tremulous hands, is continually picking his lips, or boring his fingers into his nose and ears. Sometimes on raising the patient there will be spasmodic cough and vomiting. If the

disease be not checked in this stage, it usually passes on to the next in from three to five days.

Sometimes there are remissions in this stage, and deceitful appearances of convalescence. The child regains the use of his senses, recognises those around him, and partakes of nourishment. But in a day or two, he relapses into a deeper comatose condition than before, disappointing the fond hopes of restoration which for a few brief hours had been indulged, by the anxious parents and attendants.

The fourth stage or that of torpid fever. The most distinctive mark of the accession of this stage, is the rapid rise of the pulse, which suddenly comes up to 180 or 200 beats in a minute, and sometimes so high that it can hardly be counted.

It is very irregular, small, spasmodic and intermitting. The skin is burning hot and dripping with sweat. The hands and feet are alternately cold. The tongue becomes dirty looking or black, and the breath fetid. The child continually rolls his head from side to side, waves his hands in the air, if indeed, they are not paralysed, and keeps up a constant moaning cry. Frequently one side of the body is paralysed and there are convulsive twitchings in the other. The stupor & sopor are now intense, there is perfect blindness and deafness, and paralysis of the extremities sets in.

The circulation is very unequal, one part of the body being hot and dry, and another covered with cold sweat. Sometimes miliaria make their appearance.

There is alternate paleness & redness of the face, and complete insensibility or raving delirium. Finally the respiration becomes short, anxious and spasmodic, the patient is attacked with spasms of the facial muscles, esophagus and the extremities, epileptic & tetanic spasms come on, and in many instances the little sufferer expires in the midst of strong convulsions.

The varied symptoms of acute hydrocephalus, do not occur uniformly in the regular consecutive order that characterises those of most other diseases. But on the contrary we sometimes find the symptoms naturally belonging to the last stage of the disease, appearing in the first, and much variety in the order of their manifestations.

The cause of this is found, in the mixed nature of the abnormal conditions which give rise to the symptoms.

Pathological anatomy reveals to us the following peculiar morbid appearances after death by acute hydrocephalus.

The arachnoid & pia mater exhibit decisive marks of inflammation. Occasionally the opposite surfaces of the arachnoid adhere to each other. At other times there is a small quantity of serous fluid found in its cavity, but very ^{rarely} either pus or lymph. Usually an effusion of serous fluid is found beneath the arachnoid, between the ^{2^d} cerebral convolutions, and in the meshes of the pia mater. Sometimes there are layers of coaguable lymph interposed between

the arachnoid and pia mater.

The pia mater is found injected, thickened, and infiltrated with a serous, gelatinous or turbid fluid, but very rarely contains pus.

The nervous matter has been found saturated with serous fluid, so that it might be pressed out as from a sponge.

The most common and characteristic change found in these parts is the softening of the central portions of the brain, with an effusion of a watery fluid into the ventricles. The quantity varies from two to eight ounces.

Scrofulous tubercles are often discovered in the substance of the brain, and in the surfaces of the pia mater.

They usually consist of a yellowish cheesy kind of matter, like the tubercles in the lungs.

The mucous coat of the stomach is sometimes found in a softened condition.

Intussusception of the small intestines has occasionally been observed; This was probably caused by the spasmodic and irregular movements which take place in all parts of the body a short time before death.

Causes. The principal predisposing causes of acute hydrocephalus, are the peculiar physical organization before noticed; the serofulous diathesis; improper or deficient nutrition; an hereditary tendency; and the period of life, in which the growth and development of the brain may be disproportionate to the other parts of the body.

The exciting causes are anything which operates to bring into activity the serofulous diathesis; metastasis of acute

diseases; falls, wounds upon the head, or any injury, which gives a violent shock to the system; extraordinary excitement of the mind, great joy, grief or anger; violent physical exercise disturbing the regularity of the circulation; too early education causing over exertion of the intellectual organs; suppression of cutaneous eruptions particularly from the scalp; sun stroke; very difficult and painful dentition; and various febrile diseases.

Both sexes appear to be equally liable to attacks of acute hydrocephalus, and neither climate nor season seems to have a controlling influence over the disease. It runs its course usually in from eight to twentyone days. Sometimes much more rapidly, terminating fatally in two or three days. The disease is more frequent of late years than formerly.

Diagnosis. There is much difficulty in distinguishing acute hydrocephalus in its earliest appearance, from many of the more ordinary and comparatively harmless affections of childhood, especially when it comes on in its usual gradual & insidious manner. But when the symptoms of the second stage begin to manifest themselves, we need not be in much doubt as to the nature of the disease with which we have to contend.

We are most liable to confound the disease under consideration, with other forms of cerebral inflammation, with catarrh, gastric fever, very difficult dentition, gastro-malacia and helminthiasis.

We shall however usually be able to distinguish it from these, by the frequent vomiting without obvious cause, the violent

paroxysmal headache; the characteristic
 shrill cry or scream; the pulse, first quick,
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 of the head & unsteady, vacillating gait;
 the peculiar influence of light on the eye,
 at first causing the pupil to be contracted,
 then oscillating, and then dilated; & finally
 the spasms, paralysis & convulsions.

Prognosis. When acute hydrocephalus
 runs its course and enters its last stage,
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 tubercular depositions upon the membranes
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fully established. There is much discrepancy in the statistics of allopathic practitioners in regard to the mortality by this disease.

The patients usually are saved in Homoeopathic practice when the treatment commences early, and the disease is not caused by tuberculosis. Much depends upon the state of the circulation. It is an unfavorable indication to have the pulse suddenly rise or fall, whereas a gradual change from a high or low condition to a normal standard is always hopeful. The eye also is a good criterion by which to judge of the probable issue of this disease. It is always unfavorable if the pupil remains dilated and does not contract readily under the influence of strong light. Other unfavorable conditions are when there is an inordi-

tary tendency, when caused by metastasis of acute diseases, and when the acute is engrafted on the chronic form. Acute hydrocephalus seldom passes into the chronic.

It is favorable when the disease takes a violent course, and the patient is naturally robust and healthy. It may occur even in scrofulous subjects, without tuberculous formations, and such patients have a fair chance of recovery.

Though the prognosis is in general unfavorable, yet the physician should not be discouraged. We may always derive hope from the fact that patients presenting nearly all the symptoms of this distressing disease have sometimes recovered.

Recovery takes place by crisis. First we notice moisture in the nose and ears, the pupils of the eyes contract by the stimulus of light,

the urine becomes natural, the skin moist, the circulation regular and normal, the nervous disturbance subsides and consciousness returns.

Therapeutics. The principal remedies used in the treatment of acute hydrocephalus are, Aconite, Conium, Belladonna, Pulsatilla Bryonia, Helleborus niger, Tinct Sulphuris, Turpentine, Hyoscyamus, Thamonium, Digitalis, Opium.

Aconite should be administered at the first attack, when the skin is hot & dry; pulse full, quick and strong; when there is much thirst, the mouth dry, and the tongue red or coated white; urine scanty and high colored; headache, restlessness & general uneasiness.

Conium is useful in the first stages of the disease, when it is caused by wounds,

external injury, or any sudden violent shock or jar to the body.

Belladonna should be exhibited immediately on the appearance of the characteristic head symptoms. When there is severe headache; with redness & bloatedness of the face, & great heat in the head; pulsation of the carotids and enlargement of veins of the forehead; extreme sensibility to light and noise; the eyes look red and sparkling or have a wild expression; starting in the sleep with a cry or scream as if frightened; and when the child bows his head into the pillow. This medicine is ^{never} also in the later stages of the disease, when there is violent delirium, low muttering, dilated pupils, vomiting and involuntary evacuations of urine & feces.

Pulsatilla is suitable for the symptoms of the precursory stage and corresponds more

particularly to the tottering gait, vertigo and deranged secretion of urine. It suits the moral condition of the patient at this time and some of the gastric derangements. Bryonia should be used when Aconite & Belladonna produce but partial relief, and the symptoms indicate a tendency to effusion. It should be given when there is dark redness in the face; great thirst; heat in the head with, pressing pain in the forehead and temples; eyes counselled, or at one time closed and at another wide open or fixed; delirium with sudden starts and cries; yellow tongue; distended abdomen; constipation; and hurried respiration.

Scilleborus is required when Bryonia and the other medicines fail to relieve the above symptoms, or where we have moderate fever, feeble irregular pulse; dyspnea

with deep sighs; the patient frequently putting his hands to his head as if in great pain; constant rubbing at the nose; eyes half open, dilated pupils & strabismus; excessive thirst drinking large quantities of water; continued motion of jaws as if chewing; angry irritable disposition; nostrils dry & dirty; and falling of the lower jaw.

Tinct Sulphuris should be given if the above train of symptoms are not removed by Belleborus.

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weak scarcely perceptible pulse. This medicine has frequently prevented a fatal issue of this disease.

Opium may be given when there is lethargic sleep, with stertorous breathing & eyes half open.

Hyoscyamus, when there is complete loss of consciousness, inarticulate speech fixedness of vision and redness of the face.

Stramonium, when there is starting and jerking of the limbs, moaning & tossing about, feverish heat with moisture of the skin & spasmodic twitchings.

Digitalis is especially indicated where there is severe vertigo accompanied by a very slow pulse.

The medicines upon which we place the most reliance in treating severe cases of acute hydrocephalus are *Heliborus* and *Lonicum*. There corresponds

more closely than any others to the distinctive symptoms of the fully developed disease. The patient should lay in a cool well ventilated room, with the head somewhat elevated.

The diet during the inflammatory excitement, should be very light and unstimulating, but in the exhausted condition it requires to be nourishing. Tepid water may be applied to the head, to promote evaporation. Cloths wrung out of hot water should be applied to the feet and hands when they are cold.

The eyes are very sensitive to light, & the pupils are contracted. Noise is also very disturbing. The child often has a characteristic frown upon his brow, and an expression of vacancy in his countenance, as if he were stunned. He however retains his mental faculties, though he is dull and dislikes to talk. The sleep is restless and much disturbed by grinding of the teeth. The child will frequently start with a scream, apparently in terror.

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Scilleborus is required when Bryonia and the other medicines fail to relieve the above symptoms, or where we have moderate fever, feeble irregular pulse; dyspnea

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Tinct Sulphuris should be given if the above train of symptoms are not removed by Belleborus.

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Opium may be given when there is lethargic sleep, with stertorous breathing & eyes half open.

Hyoscyamus, when there is complete loss of consciousness, inarticulate speech fixedness of vision and redness of the face.

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